WHAT IS CLAIMED IS:

1. A flush mount meander line loaded antenna.

2. A flush mount meander line loaded antenna having a plate and an associated meander line located within an open conductive cavity such that top surface of said plate is exposed at the opening of said cavity.

3. The antenna of Claim 2, and further including a conductive ground plane sheet having an aperture therethrough, said cavity having an upper lip electrically connected to said sheet at said aperture.

4. The antenna of Claim 2, wherein the volume of said cavity is greater than $.003\ \lambda^3$, with λ relating to the lowest frequency at which said antenna is to operate.

5. The antenna of Claim 2, wherein said antenna includes a number of plates and associated meander lines and wherein said plates are triangularly shaped.

6. The antenna of Claim 5, wherein there are four of said plates mounted in said cavity in a quad configuration.

7. The antenna of Claim 6, and further including a 90° hybrid having a pair of inputs and a pair of outputs, said inputs connected to feed points of opposed plates, said pair of outputs carrying right hand circular polarized and left hand circular polarized signals respectively.

8. The antenna of Claim 3, wherein said plate has an outer edge spaced from an adjacent upper lip of said cavity, and wherein said meander line is connected between said outer edge and an adjacent portion of the upper lip of said cavity.

9. The antenna of Claim 6, wherein said plates are fed in phase to provide a vertically polarized antenna.

10. The antenna of Claim 6, wherein said plates are fed to provide a circularly polarized antenna.

11. A method for providing a wide bandwidth miniaturized antenna flush mounted to a conductive surface, comprising the steps of:

providing a meander line loaded antenna having a wide bandwidth response; and,

embedding the meander line loaded antenna in an open conductive cavity connected at the top lip thereof to the conductive surface and exposed through an aperture in the conductive surface, whereby the advantages of a

wide bandwidth meander line loaded antenna can be achieved in a flush mount configuration.

12. The method of Claim 11, wherein the conductive surface functions as a ground plane.

13. The method of Claim 11, wherein the volume of the cavity is greater than .003 λ^3, with λ relating to the lowest frequency at which said antenna is to operate.

14. A method for providing a wideband reduced-size antenna flush mounted to a conductive surface to avoid the necessity of providing the antenna with a large cover, comprising the steps of:

providing a wideband meander line loaded antenna; and,

embedding the wideband meander line loaded antenna in a conductive cavity opened through the conductive surface.

15. The method of Claim 14, wherein the antenna is mounted in the skin of a moving vehicle, with the flush mounting preventing turbulent flow at or downstream from the antenna.

16. The method of Claim 15, wherein the vehicle is an aircraft.

17. The method of Claim 15, wherein the vehicle is a land vehicle.

18. A method of reducing the thickness of a handheld device requiring a wide band antenna and having a conductive case comprising the steps of:

providing a wideband meander line loaded antenna; and,

embedding the antenna in a cavity submerged from a surface of the conductive case, whereby the antenna is flush mount to the case so as not to increase the thickness thereof.

19. The method of Claim 18, wherein the handheld device is a wireless handset.

20. The method of Claim 18, wherein the handheld device in a laptop computer.

21. A method of providing a mechanically robust wideband antenna for a handheld device, comprising the steps of:

providing a meander line loaded antenna; and,

embedding the antenna in a cavity submerged from a surface of the device, thus to avoid elements which stick out from the device which are easily damaged or broken off.

22. A method for decreasing the VSWR of a loop type meander line loaded antenna having a feed comprising placing a strip of lossy dielectric material across the feed.

23. The method of Claim 22, wherein the lossy dielectric material has a resistivity of 5-50 ohm-centimeters.

24. The method of Claim 23, wherein the lossy dielectric material has a dielectric constant at 8.6 GHz of 37.

25. The method of Claim 23, wherein the thickness of the lossy dielectric material strip is 0.30 inches.

26. The method of Claim 22, wherein the lossy dielectric material includes a resistive plastic film.

27. The method of Claim 22, wherein the lossy dielectric material includes a resistive vinyl plastic film that is conductive between 1 and 18 GHz.

28. A method of decreasing the VSWR of a loop type meander line loaded antenna having a feed, comprising:

placing a capacitor across the feed for frequencies below the frequency at which the antenna exhibits significant inductive reactance; and,

placing a series connected capacitor and resistor across the feed for frequencies above the frequency at which the antenna exhibits significant inductive reactance.

29. The method of Claim 28, wherein the capacitor and resistor are provided by a lossy dielectric material.

30. The method of Claim 29, wherein the lossy dielectric material has a resistivity of 5-50 ohm-centimeters.

31. The method of Claim 30, wherein the lossy dielectric material has a dielectric constant at 86 Hz of 37.

32. A wide bandwidth meander line loaded antenna, comprising:

a loop type meander line loaded antenna having a pair of top plates and a feed therebetween; and,

a layer of lossy dielectric material across said feed, whereby the VSWR of said antenna is minimized across the bandwidth thereof.

33. The antenna of Claim 32, wherein said loop type meander line loaded antenna is embedded in a conductive cavity.

34. The antenna of Claim 32, wherein said antenna includes a ground plane plate and wherein said top plates are spaced from said ground plane plate.

35. The antenna of Claim 32, wherein said layer of lossy dielectric material has a resistivity of 5-50 ohm-centimeters.

36. The antenna of Claim 35, wherein said layer has a dielectric constant at 8.6 GHz of 37.

37. The antenna of Claim 32, wherein said layer has a thickness of 3 inches.

38. The antenna of Claim 32, wherein said layer includes a resistive plastic film.

39. The antenna of Claim 17, wherein said film is vinyl.